REMARKS

In the final Office Action[1] mailed June 11, 2008, the Examiner rejected claims 1, 3, and 4 under 35 U.S.C. § 103(a) as being unpatentable over Quate et al. (U.S. Patent No. 6,203,983, hereafter "Quate") in view of Wachter et al. (U.S. Patent No. 5,445,008, hereafter "Wachter") and in further view of Washizu et al. (*Electrostatic Manipulation of DNA in Microfabricated Structures*, IEEE Trans. Ind. Appl., vol. 26, pp. 1165-1172, 1990, hereafter "Washizu"); and rejected claim 2 under 35 U.S.C. § 103(a) as being unpatentable over Quate in view of Wachter and Washizu, and in further view of Yamamoto et al. (U.S. Patent No. 5,268,571, hereafter "Yamamoto").

By this Amendment, Applicants amend claims 1 and 4. Support for the claim amendments can be found in the Specification at, for example, page 18, lines 9-19, and page 21, lines 1-6. Claims 1-4 remain pending and under current consideration.

Applicants respectfully traverse the rejection of claims 1, 3, and 4 under 35 U.S.C. § 103(a) as being unpatentable over Quate in view of Wachter and in further view of Washizu.

Claim 1, as amended, recites an interaction detecting method for detecting an interaction between a detecting material and a target material in a detecting part, the method comprising, among other things, "detecting a vibration amplitude of the cantilever by measuring a voltage of a resistor or a piezoelectric layer coupled with the cantilever," (emphasis added). Quate, Wachter, and Washizu, taken either alone or in any combination, fail to teach at least the claimed detecting step.

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[1] The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicants decline to automatically subscribe to any statement or characterization in the Office Action.

Quate, at column 5, lines 26-36, discloses,

> As shown in FIG. 2, the device is then preferably mounted into a liquid cell 130, for example, containing an aqueous buffer 140. A detector 150 is employed in which a laser beam 160 is shown on the cantilever and reflects off of the cantilever. The reflected spot 170 of light is used to determine the relative position of the cantilever. In other words, movement of the cantilever can be determined by directly detecting the movement or angle of the reflected laser beam light. This provides a particular advantage in the present method in that it is always possible to obtain a strong signal from the reflected light.

(Emphasis added). Accordingly, Quate teaches detecting the relative position of the cantilever by measuring reflected spot 170 of laser beam 160. For at least this reason, Quate fails to teach or suggest a method comprising, "detecting a vibration amplitude of the cantilever by measuring a voltage of a resistor or a piezoelectric layer coupled with the cantilever," as recited in amended claim 1.

Wachter fails to cure the deficiencies of Quate. Specifically, Wachter, at column 2, lines 30-38, discloses,

> A laser beam 18 emitted by laser diode 19 is reflected from the clean underside of microcantilever 12. The sweep of such reflection 20 is detected by an optical detector 22 such as a photodiode. As the reflected beam 20 sweeps back and forth across the detector 22, it produces a repetitive signal 24 with a frequency proportional to the oscillation frequency 16 of the microcantilever.

(Emphasis added). Accordingly, Wachter teaches detecting the frequency of microcantilever 12 by measuring reflection 20 of laser beam 18. For at least this reason, Wachter fails to teach or suggest a method comprising, "detecting a vibration amplitude of the cantilever by measuring a voltage of a resistor or a piezoelectric layer coupled with the cantilever," as recited in amended claim 1.

Washizu fails to cure the deficiencies of Quate and Wachter, and thus fails to teach or suggest a method comprising, "detecting a vibration amplitude of the cantilever by measuring a voltage of a resistor or a piezoelectric layer coupled with the cantilever," as recited in amended claim 1.

For at least the reasons set forth above, claim 1 distinguishes over Quate, Wachter, and Washizu. Claims 3 and 4 depend from claim 1 and distinguish over Quate, Wachter, and Washizu at least due to their dependence.

Applicants respectfully traverse the rejection of claim 2 under 35 U.S.C. § 103(a) as being unpatentable over Quate in view of Wachter and Washizu, and in further view of Yamamoto.

Claim 2 depends from claim 1 and requires all the elements of claim 1. As discussed above, Quate, Wachter, and Washizu, alone or combined, fail to teach or suggest a method comprising, "detecting a vibration amplitude of the cantilever by measuring a voltage of a resistor or a piezoelectric layer coupled with the cantilever," as recited in amended claim 1 and required by claim 2. Yamamoto fails to cure the deficiencies of Quate, Wachter, and Washizu. Accordingly, claim 2 distinguishes over Quate, Wachter, Washizu, and Yamamoto.

Applicants respectfully request that this Amendment under 37 C.F.R. § 1.116 be entered by the Examiner, placing this application in condition for allowance.

Alternatively, Applicants submit that the entry of the amendment would place the application in better form for appeal, should the Examiner dispute the patentability of the pending claims.

In view of the foregoing remarks, Applicants respectfully request reconsideration of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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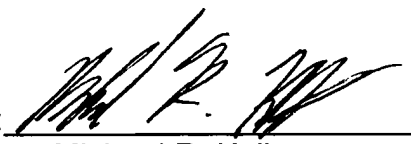
Dated: August 5, 2008

By: 

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